



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/028,830

12/20/2001

Jason Yorks

47304/JEJ/C715

5562

3017

7590

10/17/2006

BARLOW, JOSEPHS & HOLMES, LTD.  
101 DYER STREET  
5TH FLOOR  
PROVIDENCE, RI 02903

EXAMINER

LEUNG, CHRISTINA Y

ART UNIT

PAPER NUMBER

2613

DATE MAILED: 10/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/028,830

Applicant(s)

YORKS, JASON

Examiner

Christina Y. Leung

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 August 2006.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3, 7-28 and 31-47 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☒ Claim(s) 1-3, 7-27, 46 and 47 is/are allowed.  
6) ☒ Claim(s) 28, 31, 39-42, 44 and 45 is/are rejected.  
7) ☒ Claim(s) 32-38 and 43 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 39, 41, 44, and 45 are rejected under 35 U.S.C. 102(e) as being anticipated by Shimokawa et al. (US 6,445,471 B1).

Regarding claim 39, Shimokawa et al. disclose a method of adjusting an optical quality of a laser diode (laser 102) output (Figure 6), the method comprising:

extracting first and second feedback data signals from the laser diode output (at couplers 103 and 111);

detecting high frequency characteristics of the laser diode output from the first feedback data signal (spectrum analyzer 112 detects optical signal to noise ratios, for example; column 7, lines 37-40);

detecting laser source characteristics of the laser diode output from the second feedback data signal (photodiode 110 detects output power and wavelength, for example; column 6, lines 17-21); and

providing at least one feedback adjustment signal based on at least one of the high frequency characteristics and the laser source characteristics to adjust the optical quality of the laser diode output (using CPU 113; column 6, lines 17-21; column 7, lines 37-40).

Art Unit: 2613

Regarding claim 41, Shimokawa et al. disclose performing bit error rate testing using at least one of the high frequency characteristics and the laser source characteristics (column 5, lines 28-55).

Regarding claims 44 and 45, Shimokawa et al. disclose that the laser source characteristics are detected using spatial and spectral characteristics (column 6, lines 17-21).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 40 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimokawa et al. in view of Aulet et al. (US 5,546,325 A).

Regarding claims 40 and 42, Shimokawa et al. disclose a method as discussed above with regard to claim 39, including detecting some characteristics of the laser diode output, but do not specifically disclose spec-compliance testing. However, Aulet et al. teach that spec-compliance testing by comparing at least one of discrete optical parameters and at least one of discrete optical data integrity parameters against predetermined limit values may be performed on optical transmitters (column 2, lines 18-36). Regarding claims 40 and 42, it would have been obvious to a person of ordinary skill in the art to perform spec-compliance testing by comparing certain parameters of the laser diode to predetermined limit values as suggested by Aulet et al. in the transmitter system disclosed by Shimokawa et al. in order to ensure that the transmitter conforms to desired operating specifications.

Art Unit: 2613

5. Claims 28 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimokawa et al. in view of McGhan et al. (US 6,842,587 B1).

Regarding claim 28, Shimokawa et al. disclose a method of adjusting signal quality of a data signal provided by a transmitter, the method comprising:

generating a drive signal (using LD driver 101);

generating the data signal in response to the drive signal (using laser 102);

splitting the data signal to at least first and second data signal portions and a data signal (using couplers 103 and 111, wherein the “data signal” is output from coupler 11 to the transmission line as shown in Figure 6);

generating a first signal containing a high frequency characteristic by detecting the first data signal portion (using optical spectrum analyzer 112, which detects one of the signal portions output from coupler 111 and which detects optical signal to noise ratios; column 7, lines 37-40);

generating a second signal containing a source parameter characteristic by detecting the second data signal portion (using photodiode 110, which detects the other signal portion output from coupler 103 and which detects output power and wavelength; column 6, lines 17-21);

generating at least one feedback signal in response to the first and second signals; and

adjusting the drive signal in response to the at least one feedback signal (using CPU 113).

Examiner respectfully notes that claim 28 only recites a step of “splitting the data signal to at least first and second low powered data signal portions and a high powered data signal portion” and does not further specifically recite structural details regarding performing this step. Therefore, Shimokawa et al. disclose a step of splitting a data signal into first and second signal portions, as well as a data signal using the two couplers 103 and 111.

Shimokawa et al. do not specifically disclose that the first and second signal portions are “low powered” while the data signal is “high powered” as recited in the claim. However, McGhan et al. teach a method (Figure 2) that is related to the one disclosed by Shimokawa et al. including generating a data signal (using elements including laser 21), generating a feedback signal using a portion that has been split from the data signal (using coupler 28), and adjusting the transmitter in response to the feedback signal (column 3, lines 40-54). McGhan et al. further specifically teach that the portion that is split from the signal and used for feedback is a low powered signal, while the transmitted data signal is high powered (by using a coupler which splits the signal into 95% power and 5% power branches, for example; column 3, lines 49-52). Regarding claim 28, it would have been obvious to a person of ordinary skill in the art to use the type of coupler taught by McGhan et al. as the couplers in the system disclosed by Shimokawa et al. and thereby provide relatively low powered first and second signal portions, in order to preserve most of the data signal power for the data signal that is actually transmitted across the transmission line to a corresponding receiver. One in the art would have been particularly motivated to use low powered first and second signal portions as suggested by McGhan et al. in the method disclosed by Shimokawa et al. in order to ensure that the data signal is of sufficient power to be properly received.

Regarding claim 31, Shimokawa et al. disclose that the data transmitter comprises a laser 102, and the data signal comprises an optical data signal.

***Allowable Subject Matter***

6. Claims 1-3, 7-27, 46, and 47 are allowed.

Claims 32-38 and 43 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

7. Applicants' arguments filed 04 August 2006 regarding claims 28, 31, 39-42, 44, and 45 have been fully considered but they are not persuasive.

In response to Applicants' argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which Applicants rely (i.e., details concerning a power splitter element) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Examiner respectfully notes that independent claim 39 was rejected in the previous Office action under 35 U.S.C. 102(e) as being anticipated by Shimokawa et al., but Applicants' arguments regarding Shimokawa et al. on pages 13 and 14 of their response are primarily directed to the amendments to other independent claims (specifically, the addition of limitations with respect to a power splitter in combination with the first and second signals containing a high frequency characteristic and a source parameter). Examiner respectfully notes that claim 39 was not amended. Regarding claims 28 and 31 in particular, Examiner respectfully notes that claim 28 only recites a step of "splitting the data signal to at least first and second low powered data signal portions and a high powered data signal portion" and does not further specifically recite structural details (such as a power splitter element) regarding performing this step. The two couplers 103 and 111 disclosed by Shimokawa et al. perform a step of splitting a data signal into

Art Unit: 2613

first and second signal portions, as well as a data signal which continues to the transmission line as shown in Figure 6.

### ***Conclusion***

8. Applicants' amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christina Y. Leung whose telephone number is 571-272-3023. The examiner can normally be reached on Monday to Friday, 6:30 to 3:00.

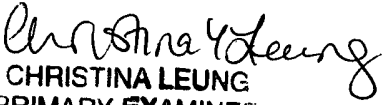
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 571-272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2600.



Art Unit: 2613

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
CHRISTINA LEUNG  
PRIMARY EXAMINER